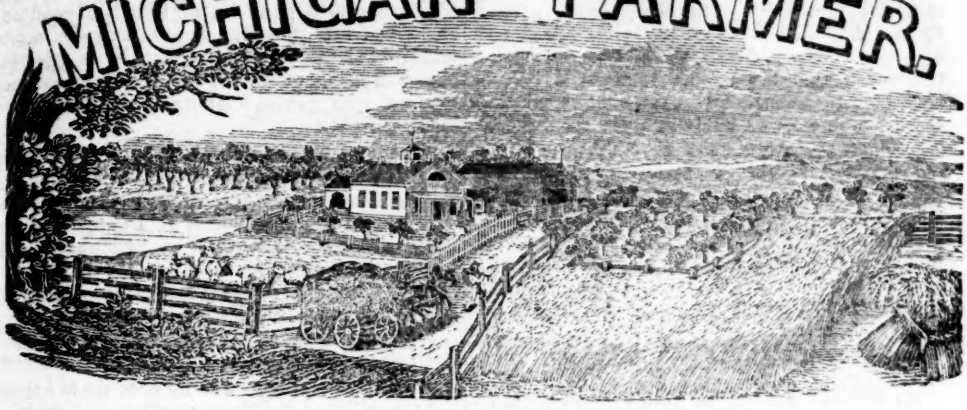
MICHIGAN FARMER.



DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC ECONOMY.

Volume IV. Jackson, December, 1846. Number 9.

PUBLISHED MONTHLY.

H. HURLBUT, EDITOR.

[For Terms see last page.]

For the Michigan Farmer.

Peaches and Peach Trees.

The object of this communication is, to induce those interested to compare notes. From some cause not easily explained, peach trees did not, the past season, uniformly produce a full supply of fruit. The failure does not appear to have been confined exclusively to any particular soil, neither, has any particular aspect been more favorable than others. In all locations where clay predominates, fruit has been most abundant.—From nearly three hundred trees of from four to ten years old, I did not have to exceed five bushels of peaches, and most of them were on two trees that about four years ago exhibited evident signs of decay. The earth was removed from the roots around the trunk of the tree, say a foot each way, and a *few* worms cut out. The cavity was filled with leached ashes, and pressed hard; and over the entire surface of the ground occupied by the roots, were mixed with the soil, coal dust, and small cinders from a smith's shop, putting on a layer of about six inches. Since then, there has been a luxuriant growth of wood, and the trees are healthy. The past season they produced nine-tenths of the fruit I had. Other trees, having the same (a northern) aspect, and much more protected by a bank on the south side extending four feet high, had only one and two peaches each. A few other trees on sward land, (same aspect,) had a few peaches; while others on level land, and on land having different aspects, and well cultivated with cultivator and hoe, had not to exceed a peck of fruit, and that on perhaps a dozen trees. The fact that clay soils produced the most fruit the past season, should induce some of us thoroughly to try the experiment, and if trees are to be set, dig a large hole, and mix two or three parts clay with the soil; while the earth may be removed from the trees already set, and clay put on. We have already learned by experience, that some method must be adopted to protect peach trees, or we must despair of having fruit every year. I have some trees sixteen inches in diameter, that have only borne fruit twice.

What effect the past season will have upon fruit, remains to be seen. The severe drought, followed by excessive rains in October, and in the present month, has caused a rapid growth much later than usual. I had plum trees in blossom the 16th of October, and some hardy roses in bloom the 12th of this month. I visited a friend in Wayne Co., who informed me that while he cultivated the soil well around peach trees, he had a good growth of wood, but no fruit. For a few years past, he has laid his peach orchard to grass, and has an abundance of fruit. I hope others may be induced to state facts in reference to peach trees, and perhaps some benefit will result from it.

S. B. Noble.

Ann Arbor Garden, Nov. 24, 1846.

Prize Essay,

On the connection of Science with Agriculture

(Continued.)

Analysis has also proved that in addition to the usual organic elements, there are about ten organic or earthy constituents, most of which are invariably found in the same species, and are indispensable to its healthy growth. These are potash, soda, lime, magnesia, alumina, silica, iron, manganese, sulphur, phosphorus, and chlorine.—These substances are derived by the plants from the soil; hence a fertile soil,—one from which plants may draw these essential constituents, must of course contain them. Here the intimate relation between the constituents of plants and of soils is at once obvious. Hence soils which are destitute of a part of these ingredients, or contain them in very small proportions, is necessarily sterile; or if they be destitute of one only,

the same result must take place, if that one is an essential ingredient of the crop growing upon them. And here it is that the great benefits to be derived from analysis of soils, at once force themselves upon the mind. If a soil is barren, determine its constituents—see what is wanting—what is in excess: apply at once the deficient ingredient, or counteract or neutralize the injurious one, and fertility is restored. A soil was shown to H. Davy, which, though apparently abounding in every enriching material, was incapable of yielding a crop. He found by examination, that it was poisoned by a considerable portion of sulphate of iron or copperas. He decomposed this sulphate by applying lime, and the difficulty was removed. Here the remedy was simple and certain; but such cases very rarely occur in practice.

As different plants draw from the soil the same substances in unlike proportions, analyses of these plants will show which substances are most largely needed for the different crops. And it points out a reason of the fact long since known, that a field which may bear a profitable crop of one kind, may be unable to yield a good return of another: and that by alternation or rotation, different portions are variously abstracted, and time left for the restoration of each by various processes in nature, and by artificial means. But the fact that these ingredients vary in the same plants, shows the great necessity of caution in drawing practical conclusions. Justus Liebig, one of the most eminent chemists of modern times, but whose deductions are often deficient in value from a want of sufficient corroboration by actual experiment in cultivation, says that one hundred parts of the stalks of wheat yield 15.5 parts of inorganic constituents; barley 8.54 parts; and oats only 4.42 parts, all being of the same composition. "We have in these facts," he then adds, "a clear proof of what plants require for their growth. Upon the same field which will yield only one harvest of wheat, two crops of barley and three of oats may be raised." But every good farmer knows that oats is exhausting to an extraordinary degree, instead of being less so than barley, and only one third as much as wheat, according to this conclusion of Liebig.—Some of the best farmers of New York, never suffer an oat crop to grow on land ever appropriated to wheat. Professor Johnston has, however, demolished Liebig's reasoning, by showing that these inorganic constituents are not only different in composition, but greatly variable in quantity, the oats sometimes considerably exceeding the barley, and the wheat varying from 3.5 per cent. to 15.5 per cent. But neither of these chemists appear to have considered the composition of the *grain*, nor to have remembered the difference in the *weight* of the crop. Superficial reasoning and general theories often appear beautiful; but thorough investigation in detail, and the results of actual practice, will frequently exhibit their uncertainty and error.

A department of analysis, perhaps the least liable to erroneous results, is the examination of *manures*. Fertilizing substances are known by their effects applied separately to plants or in mixture; or by the fact that fertile soils and well grown plants are found to contain them. Now, analysis will show what proportion of the fertilizing materials exist in different kinds of manure; and hence the value of manures may be ascertained, at least to some extent, by a previous chemical examination. A comparison of common manure with guano, exhibits this principle in a striking light:

A ton of manure yields	2	lbs. and	4	oz.	of	potash.
" guano	"	66	"	8	"	"
" manure	"	1	"	10	"	soda.
" guano	"	36	"	15	"	"
" manure	"	5	"	1	"	phosph. acid
" guano	"	283	"	9	"	"
" manure	"	1	"	4	"	sulph. acid.
" guano	"	93	"	8	"	"
" manure	"	1	"	9	"	chlorine.
" guano	"	62	"	00	"	" *

Here it will be seen that most of these enriching ingredients are from thirty to 70 times as great in quantity in guano as in common manure. Experiment accordingly proves that guano often produces from thirty to seventy times as great a growth in plants, as an equal quantity of manure.

One of the most powerful manures is poudrette, a preparation from night-soil. Let us see what kind of comparison analysis will draw between this substance and guano:

A ton of night-soil yields	6	lbs.	7	oz.	of	potash.
" guano	"	66	"	8	"	"
" night-soil	"	4	"	10	"	soda.
" guano	"	36	"	15	"	"
" night-soil	"	120	"			phosph. acid.
" guano	"	283	"	9	"	" *

Here we see that guano still vastly exceeds even night-soil in these important requisites to fertility: although the latter possesses a very striking superiority in composition over common manure. We accordingly find in practice, that the comparative value of these different manures is very nearly the same that analysis indicates, when the average of experiment is taken.

There are many other substances which chemistry points out as valuable for manure, which are found useful in practice. Many of these, however, if used singly, or mixed with only one or two others, often give uncertain results, frequently prove failures, and sometimes are a positive injury. Sulphate of ammonia, nitrate of soda, sulphate of lime, silicate of potash, and other salts have been known to produce extraordinary growth; but in other cases were valueless. So many causes control their action, that this uncertainty must continue to exist. The soil may be already supplied with them; drought may derange entirely their action; and other influences now unknown may produce a similar result.

Common barn-yard and stable manure, though not so powerful, appears to be more universally beneficial than any other from the certainty of its operation. This certainty is dependent on the great number of its ingredients. It contains a large portion of decaying vegetable matter derived from the pulverized hay consumed by the animal; it is rich in ammonia and other animal matters, resulting from the secretions; and it contains many salts derived from both these sources. Poudrette possesses nearly the same ad-

* London Ag. Gazette.

vantages; and guano, from its great quantity of animal matter and enriching salts, rarely fails if properly applied. With single substances, however, there is great uncertainty, until experiment points the way.

Wheat was found by H. Davy to contain more nitrate of potash than any other farm product; yet the author of British Husbandry says, "although it has generally occasioned an increase of straw, the yield of grain has not been improved, and the crops have in many instances been found unusually subject to mildew." Similar experiments, by the writer, have produced no favorable result. Hence we perceive that supplying, simply, an essential ingredient, does not always answer the purpose. Artificial guano, made by an observance of the analysis of the natural, though useful, has not been found nearly so powerful as the latter. Nitrogen, supplied properly to plants, causes a healthy and rapid growth; yet although this element exists uncombined as a component of the atmosphere, and in direct contact with the leaves of plants, they will perish for want of it before they will draw a particle of it from the air. Hence in all chemical deduction relative to manures, the experiments of the cultivator only are to be depended on, and to remain as the decisive test. Suggestions of incalculable importance may come from theory, but practice alone must prove their value.

The importance of the analysis of soils, to determine deficient ingredients, and then to supply defects, has been already adverted to. Although its value thus appears to be very great, and has been much extolled by chemical writers and their imitators, yet there are difficulties in practice which render extreme caution in drawing conclusions very necessary. The constituents of plants may indeed be determined with much accuracy; and the different ingredients in manures, and their consequent adaptation to those plants, and of their comparatively fertilizing effects, may be ascertained frequently in the laboratory. But the extensive diffusion of these ingredients through broad acres of soil, and the exceedingly minute proportion which some bear to the whole bulk of the soil, renders the determination of these proportions, if not the actual existence of the ingredients, difficult if not impossible. A distinguished chemist told the writer, that for ordinary earthy substances, the detection of a thousandth part required skillful analysis. Minuter portions of some constituents are more easily detected than of others. But suppose a ten-thousandth part the utmost limit for agricultural practice, a few instances will show the inadequacy of analysis in cases which may occur:

A considerable portion of sulphate of lime or gypsum is found to exist in red clover, and other leguminous plants. Hence a reason that gypsum so eminently benefits the growth of red clover. And hence reason would here suggest, that to determine the fitness of a soil for clover, an analysis should be made; if it contain gypsum all is right, and the clover will flourish: but if not, then a dressing of this material must be applied. This is the theory. Let us compare it with practice. A hundred pounds of gypsum to the acre has often doubled the clover crop; and a tenth part of that quantity, or ten pounds to the acre, will produce in some cases very sensible effects. After it is spread on the ground, and before any sensible effect is produced on the crop, the rain has usually dissolved it and carried it into the soil and among the roots of the young plants. It thus becomes intimately diffused through the soil. Now, will analysis detect its presence? If the soil is a foot deep, half a grain to a pound will indicate a hundred pounds to an acre. Yet this half a grain to a pound is only one fourteen-thousandth part; though often producing a most luxuriant growth of red clover. A tenth part of that is only one hundredth and forth-thousandth part; yet this minute portion often is found to exert a very visible influence in growth: though far beyond the reach of ordinary analysis. A crop of clover of a ton and a half to the acre, contains only three times this amount, or thirty pounds of gypsum in its stems and leaves.

Again; twenty pounds of muriate of ammonia applied to an acre of rye added five bushels to the product.* But this is only one seventy-thousandth part of the soil. One hundred and forty pounds of guano *added* more than sixteen hundred pounds to an acre of hay. But this manure, when diffused through the soil, constituted only about a ten-thousandth part: its proportion of phosphoric acid, forming about one-eighth, and a very important ingredient, would be about one eighty-thousandth part; its sulphuric acid would constitute less than a two-hundred-thousandth part, and its potash about one three-hundredth thousandth part. I am not aware that many chemists claim sufficient skill to determine such small proportions in the soil: yet these experiments show their great practical influence when existing as added constituents.

The ammonia of the atmosphere is considered by eminent chemists as holding a very important relation to the healthy and vigorous growth of plants; yet its presence has never been directly detected, and only indirectly by favorable opportunities when absorbed in snow or rain-water.—Eminent and accurate experiments had not discovered even this until within a few years.

It is not denied that a bright light may be thrown on the practice of agriculture by carefully conducted analyses of soils. The results of many examinations which have been made, show frequently a very striking difference between fertile and barren soils. But these analyses were conducted with the most rigid care and accuracy by men of such skill and eminence as could hardly be expected to be at the service of any common practical farmer. And after all, accurate experiments in cultivation would determine all that is necessary in many points of practice, and would in any case be needed as a test of the truth of the theory.

It is to be hoped that chemists will continue to pursue their investigations on doubtful points, until certainty, if possible, may be arrived at; and that all well-established facts may have as extensive application in farming as their value merits. But it must be admitted that there has been a disposition to take too much for granted, and to overstate the certainty of success in connecting chemistry with agriculture. The precis-

* Johnston's Lectures, Appendix, p 20.

ion so striking in other sciences, and other applications of this science to various arts, does not hold in case of the growth of plants, which, though governed by fixed laws, is too much controlled by circumstances and too much obscured from view, to be thoroughly understood. This growth is slow and imperceptible to the sight; plants are surrounded by an invisible air above ground, and are hidden from view below ground; their surfaces receive nourishment by pores only seen by powerful microscopes; the nourishment is drawn from vapors and floating gases in the air, and liquids in the earth charged with many substances in minute proportions; and the whole process is entirely beyond the reach of the closest scrutiny of the eye.

It is not surprising therefore that there should be a difference of opinion among high authorities.

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The distinction must be drawn between *The Application of Science to Agriculture*, and THE SCIENCE OF AGRICULTURE. The former has been already explained: the latter consists of the facts which practice has established, and the truths it has developed, reduced to a system, and in some degree arranged under fixed principles. The Science of Agriculture explains the theory and operations of draining, plowing, subsoiling, and manuring, of rotation of crops, of cultivating the soil, of adapting culture to crops, and many other practices which distinguished the best modern specimens of farming. It is a systematic arrangement of knowledge, which the experience of centuries has accumulated. Many of its principles, it is true, are those of other sciences; but they were usually discovered in the course of cultivation, before those sciences had a distinct existence. A professor of one of our colleges has cited the practices of draining, subsoil plowing, trenching, and clovering and plastering, as specimens of the application of science to agriculture. But these have all resulted entirely from experience; they are indeed specimens of scientific farming, but they originated from the science of agriculture, as just explained, and not from science *to* agriculture in its common acceptation.

* * * * *

It is not denied, that important aid may yet be derived from agricultural chemistry. But its advance must be slow and attended with caution. Years of careful and accurate analyses of soils, and of the trial of manures, separate and mixed, in connection with experiments on growing crops performed with the utmost judgment and precision, can only settle uncertain points. Reasons will thus be rendered clearer by science, and practices explained, enforced and established. But these experiments must be performed chiefly by the enterprising few, and not by the common farmer. The study is indeed deeply interesting and fascinating; and every one who has a knowledge of the natural sciences, will not unfrequently find useful applications in the every-day business of life. But to hold them up as a means by which the young farmer is to conduct his business most profitably, while he yet remains wholly or partially ignorant of the most improved modern systems of practice and management, cannot be followed by the best results. The most important knowledge must be first attained, and afterwards that which is less essential in practice. If possible, neither should be neglected. We should not denounce any study because it is encompassed with some difficulties. Chemistry is affording many valuable suggestions for trial and practice; and as Professor Johnston very justly remarks, "It is foolish to refuse to avail ourselves of the morning light because it is not equal to the mid-day sun."

A Middling Cow and a Good Cow.

A middling cow will yield five pounds of butter per week,—while a good cow will yield ten.—Now offer both of these for sale—the middling animal being as large and handsome as the good one. How many purchasers, think you, will give fifty dollars for the one rather than twenty-five for the other?

Let us make a reasonable estimate. It costs thirty dollars a year to keep a cow, and the produce of a middling one is worth thirty-six dollars. Your cow earns you six dollars over and above the keeping. But your good cow earns you seven times six! She yields twice as much milk and butter, yet the cost of her keeping is the same as the other. Her earnings are seventy-two dollars; and if you deduct her keeping (30 dolls.) you have forty-two dollars for her annual profit—seven times as much as your middling cow!

Have we made any mistake in the figures? Let's try again:—Farmer A. keeps one good cow; farmer B. keeps two middling cows that yield just as much as A.'s cow (72 dolls.) A. deducts the cost of keeping (30 dolls.) B. deducts costs of keeping (60 dolls.) A.'s profits, above the keeping in one cow, are forty-two dollars.—B.'s profits above the keeping of two cows are twelve dollars. On one cow there would be six dollars.

Have we put a very uncommon case? Go into the yard of any careful farmer, who keeps twelve cows, and he will tell you that some of them yield twice as much as others on the same keeping.

Yet who will give fifty dollars for a *good cow* when he can have a *middling cow* for twenty-five? We answer,—not one farmer in twenty. And this is the reason why so few are willing to devote themselves to the raising of superior stock. We have no bidders. Our people think the English great fools to pay such prices as they do, for first rate cattle. We may yet think differently. —*Mass. Ploughman.*

From the Boston Cultivator.

Cultivation of Orchard Grass.

Messrs. Editors:—In a late journey through a part of Pennsylvania, I observed that the Stock Farmers are cultivating Orchard Grass in preference to every other, as it affords perpetual pasture for their cattle, and sheep, which thrive well upon it, although it is accounted coarse herbage.—Many of those so engaged make considerable profit by the sale of seed, which when very clean and pure, sells readily at high prices. The mode of cutting the seed is, to cradle off the top of the crop, letting the bulk of the hay stand to be mown sometime after, when fresh shoots have

sprung from the roots, the whole then making good winter fodder. But it is of very great importance to obtain the seed pure and clean from an admixture of the seeds of the grasses and weeds; and to accomplish this object, I observed one of the most intelligent and successful growers of this profitable crop, who goes the right way to work it, ploughing his land four rimes after oats, before he sows his wheat, with which crop he seeds his grass; remarking, however, that he considers such a system of pulverization, injurious, rather than otherwise to the wheat crop; forcing forward, a too rapid autumnal growth—no doubt a very just conjecture.

Immediately after oat harvest, he turns in the stubble, and harrows the ground, when millions of weeds make their appearance. Upon these he carries abroad his dung, and turns all in, harrowing again for another crop of weeds, which, as soon as well up, are again turned under; the dung then coming on the top, is well harrowed and mixed with the soil, and left for another growth of weeds, when the whole is sown and ploughed under by a very shallow furrow. Admirable management this, and applicable to many other crops, by which a farm could be kept clean at comparatively little cost or labor; the system being recommended in one of our Agricultural publications, where it is termed, "a plan for the cultivation of weeds," which is the main difference between the old and the new husbandry, the one preventing them from growing, the other, encouraging their growth that they may be extirpated by the Plough—a system, calculated to make a difference of a profit or loss on a farm.

On such a clean and well pulverized soil as above described, the orchard grass-seed is sown, with the fairest prospect of complete success, and substantial profit; the beauty of the sample of the seed thus raised insuring its best recommendation in the market. T.

Bloody Milk.

Mr. Wildman of Castle, says:—"I wish to ask of you, or some of your correspondents, what I can do for a likely young cow I have that came in last spring, and has given bloody milk for the last two or three weeks. I have had recommended garget root and nitre, both of which I have tried, and see no good result. I still continue to milk her, and feed it to the hogs, in hopes that there is something I can do for her that will restore her milk, as she is of a superior breed which I wish to keep on my farm."

Blood in milk arises from the rupture of blood vessels in the lacteal gland, where the milk is secreted from arterial blood. One has to rely mostly on Nature to heal the bleeding vessels. Quack nostrums can do but little good at best, and may injure the general health of a valuable cow.—Milk very gently three times a day, and wash the bag in cold water, made colder by the solution of a little salt. The object of frequent milking is to avoid the great distension of the vessels in the gland, and their liability to bleed; while the application of cold water will serve, like applying it to the forehead or back of the neck to check bleeding at the nose, to contract the open mouths of the capillaries which exude blood into the milk. —*Genesee Farmer.*

Hints to those on Small Farms.

Ed. Cultivator—Having but a few acres of land to cultivate, I have made it my study to obtain as much as possible from those few. The amount of manure I can command is small, hence I have not been permitted to accomplish this object by heavy crops from a high state of fertility. But I have been compelled to do it by a selection of crops profitable in themselves; some of which are as yet scarcely known, as farm crops, to farmers generally.

Among these, root crops hold an important place. I have formerly raised ruta bagas, and field beets largely; the former are very easily raised on light soils, costing me usually from 3 to 5 cents per bushel, according to the favorableness of the season. But to be raised thus cheaply, the land must be previously rich and well tilled, and cleared of weeds, and the young plants must be hoed before they are two inches high. The hoeing must be *finished* before they are that height. This is perfectly indispensable. Some of my richer neighbors have tried to raise them. They have selected some waste piece of ground. where a manure-yard, old stack, or demolished building formerly stood, such spots being of rich soil. But they seemed to forget that such places were also richly charged with the seeds of weeds, hence a hard job to hoe the young crop. To make the matter ten times worse, they put off the hoeing a week, when the weeds had shot up six inches or a foot high, and the labor of cleaning them became enormous; while half the amount of the crop was lost by the stunting they thus received. What was the conclusion? "Why these rooty beggys are the hardest crop I ever raised, and I shan't have nothing more to do with 'em."

Roots, raised in the cheap manner I have already described, I have found of the greatest advantage, nay, almost indispensable, in carrying my stock through winter, reducing the amount of hay needed to one-half, and requiring but little land comparatively for their production.

But useful as I have found ruta bagas, for feeding horses, store cattle, &c., I never could make them answer perfectly for milch cows; the milk and butter would have a slight taste of the turnep, although this was greatly diminished by feeding just after milking. and by working all the butter-milk from the butter. Hence I have adopted Carrots as the main root crop. They are hardly so productive as turneps, but their superior richness far surpasses all other roots. Horses, not very fond of ruta bagas, will often prefer carrots to oats themselves, and for feeding in company with oats and hay, they are superb. All cattle eat them with avidity; and milch cows through winter if fed on them plentifully, give the

richest milk and make the best butter. The white carrot, projecting from the ground four to six inches, is very easily harvested, and is more productive than the yellow carrot; while the latter has the advantage of remaining uninjured if left in the ground till spring. Hence I raise some of each.

But the crop most neglected by farmers, and which I find the most profitable of all, is *corn, sown in thick drills for fodder.* This mode of raising fodder is so easy, requires so little labor, and yields so enormous a crop, that it is eminently worthy the adoption of every farmer, rich and poor, small and great, in debt and out of debt, thriving and not thriving, east, west, north, and south. Good soil is plowed, harrowed, and furrowed about two feet apart, as for potatoes; one man strews the grain from a basket along the furrow as fast as he can walk, about fifty grains to a foot, or two bushels to the acre; another follows with a common harrow, lengthwise with the furrows, or across them as is most convenient, and covers the seed. Passing the cultivator once or twice between the rows afterwards, is all the attention the crop needs. It quickly grows up, and covering the whole ground, entirely precludes the necessity of hoeing. When the crop is taken off in autumn, the ground is clean as a floor, (and they are not always clean, I am sorry to say.) Wheat may be sown after, with very great propriety, as the mere growth of herbage, (no grain being produced,) does not exhaust the soil. Hence this becomes an excellent crop for a course in rotation. The amount, (if sown thick enough, not otherwise,) is about five to seven tons to the acre, of the very best fodder, cattle eating all the stalks; and by the most liberal estimate of labor, interest on land, and cost of seed, I have never made it cost more than two dollars a ton—often not more than a dollar and a half. This crop may be sown right after the usual time of planting corn, and before hoeing commences; and may be harvested directly after the usual harvests. One load of it is worth more than two of common corn-stalk fodder. My neighbors all around are astonished at the advantages I derive from this crop, and resolve to try it themselves; but when the usual time arrives for sowing it, something prevents, or they have not land to spare, and it is neglected. Because I have not land to spare, is the very reason I adopt this course; for with one acre, I get as much of better fodder as is usually obtained from four or five acres of meadow.

The use of ashes, plaster, domestic poudrette, and muck, I find very beneficial, in the absence of a large supply of common manure; and the use of the subsoil plow lately commenced will, I doubt not, be very advantageous.

—*Albany Cult.* X. Y. Z.

For the Michigan Farmer.

To destroy Lice on Cattle—To cure Dry Murrain.

MR. EDITOR:—I have noticed in the Farmer, some remedies for destroying lice on cattle;—but I have tried one for two years past, which I think is superior to any that I have seen in your paper. Take an old quilt, throw it over the back of the animal, letting it hang down all round, as low as the knees, and close it around the neck; or if the quilt is large enough, put it over head and all, letting only the nose stick out. Take a dish of live coals, and put on some smoking tobacco, (or some plug, cut and dried, would be stronger,) and hold it under the animal, frequently raising it on the back to let the smoke come up. This will kill all the lice, and you can curry or brush them off immediately. In a few days, as soon as the nits are hatched, the operation will need to be repeated. This is the cheapest, quickest and surest method that I have ever heard of. It is better in cold weather than any liquid preparation.

One or two inquiries I should like to make. First, is there any method to make a cow that gets a notion of holding up her milk, give it down?

Second, Is there any cure for the dry murrain in cattle? I am not particularly acquainted with the disease; but once saw an ox opened that died with it; and the manifolds were so dried up that I should think it impossible for any medicine to pass.

I don't know how big watermelons you raise out your way,—but one grew in my garden, weighing 19 lbs. 11 oz.—planted 4th of July, picked 23d of September.

JEDEDIAH BROWN.

Boston, Ionia Co. Oct. 21, 1846.

We cannot answer Mr. B's questions of our own knowledge. In regard to the second, on consulting an old cattle doctor, we have obtained the following recipe for the cure of

DRY MURRAIN.—Give to a full grown ox or cow a junk bottle full of train oil. Keep the animal moving slowly, and repeat, if necessary, after twelve hours.

Our informant says he has tried this remedy in forty cases, without failing.

In the "Emigrant's Hand Book," an Ohio farmer recommends 2 oz. of gamboge dissolved. This is a powerful physic; and it is very necessary to get something to pass the animal. He believes the dry murrain always precedes the bloody murrain, and is the cause of this last and most fatal disease.

As preventives of the dry murrain, one recommends ashes—another thinks saltpetre much better—a piece about the size of a kernel of corn to be given once a week.

Wintering Animals.

In wintering stock of all kinds, economy as well as humanity requires that they be provided with warm shelters. This fact science demonstrates, and experience has abundantly proved. Aside from the saving of life, which is often sacrificed by the effects, immediate or remote, of exposure to the inclemency of winter, the saving in the quantity of food required to sustain an animal in good condition, is sufficient to pay in a short time the cost of constructing shelters. The difference in the quantity of food consumed by an animal well sheltered, and one whose best protection is the lee side of a fence or straw stack, is greater than would be supposed, by any who have never tried the experiment. Some farmers, who admit the saving of keep above mentioned, prefer to leave their stock unprotected in winter, from an idea that they are thereby rendered more vigorous and healthy. It is true that there is a wonderful power of adaptation to circumstances in the constitutions of animals, enabling them, from habit, to endure hardship, which they would have sunk under at first.—Thus the exposed animal becomes able to bear cold and storms better than one accustomed to a warm shelter; but the capacity for endurance has its limits—and those limits are often reached during the severities of our winters. The hollow horn in cattle has been supposed to be frequently caused by the action of cold, and one of the remedies recommended consists, in part, of wrapping the horns in sheepskins, the wool side in, to afford warmth by which the circulation may be restored.

Exposed animals are sometimes supposed to be healthier than sheltered ones, because their appetites are keener; but the consumption of an increased quantity of food is only nature's method of keeping up the supply of animal heat, and is no proof of more perfect health.

Useful Recipes.

Hogs are frequently taken sick, and sometimes die without exhibiting any symptoms by which the uninitiated in such matters, can either infer the nature of the disease, or apply a proper remedy. In such cases, it is frequently of benefit to the sufferer to throw into his trough an ear of corn, dipped in tar and rolled in brimstone.

Sheep—One of the most troublesome, and certainly most loathsome diseases with which sheep are affected, is the "foul nose." For this we know of no remedy more speedily and certainly effectual than the following: "Make a small mop by wrapping a rag around the end of a stick: dip this in tar, taking up as much as will adhere to it; roll it in salt, and then thrusting it into the sheep's mouth, hold it there till she is forced to withdraw and swallow the tar and salt, and your sheep will soon get good health and clean noses."

Sows.—Remember that excessive feeding of sows with swill or slop for some days after parturition is dangerous. In one or two instances that have recently come under our notice, sows so fed have died.—*Maine Farmer.*

From Downing on Fruits.

Salt for Plum Trees.

A good deal of attention has lately been drawn to the use of common salt, as a remedy for the Curculio. Trials have been made with this substance in various parts of the country, where scarcely a ripe plum was formerly obtained, with the most complete success. On the other hand, some persons after testing it, have pronounced it of no value.—Our own experience is greatly in favor of its use. We believe that, properly applied, it is an effectual remedy against the curculio, while it also promotes the growth of the tree, and keeps the soil in that state most congenial to its productiveness. The failures that have arisen in its use, have, doubtless, grown out of an imperfect application, either in regard to the quantity or the time of applying it.

In the directions usually given, it seems only considered necessary to apply salt, pretty plentifully, at any season. If the soil be thoroughly saturated with salt, it is probable that it would destroy insects therein, in any stage of their growth. But, though the plum tree seems fond of saline matter, (and one of the most successful experimenters applied strong fish brine, at the rate of three or four pails full to a tree of moderate size.) it must be confessed this is a somewhat dangerous mode, as the roots are forced to receive a large supply of so powerful an agent at once.

The best method of applying salt against the plum weevil, is that of strewing it pretty thickly over the surface, *when the punctured plums commence dropping.* The surface of the ground should be made smooth and hard, and fine packing salt may then be evenly spread over it, as far as the branches extend, and about a fourth of an inch in depth.—Should the weather be fine, this coat will last until the fruit infected has all fallen; should it be dissolved or carried off by showers, it must be replenished immediately. The larvæ or grubs of the weevil, in this most tender state, emerging from the plum to enter the ground, will fall a prey to the effects of the salt before they are able to reach the soil.—If this is carefully and generally practiced, we have little doubt of its finally ridding the cultivator of this troublesome enemy, even in the worst districts and soils.

MICHIGAN FARMER.

JACKSON, DECEMBER, 1846.

☞ The Co-partnership heretofore existing between the subscribers in the publication of the Farmer, is this day dissolved by mutual consent. All the accounts of the paper have been re-conveyed to H. Hurlbut.

H HURLBUT,
H G. WOODHULL.

Jackson, October 26th, 1846.

The reason of the above dissolution was the ill health of Mr. Woodhull. He is still, so far as able, acting as agent for this paper, as also are the following.

TRAVELLING AGENTS.

WM. R. MOODY,	A. H. PROCTOR,
WM. SEARLES,	J. W. CROWELL,

Our next Volume.

The Editor of the Farmer is making arrangements for its publication the ensuing year in an enlarged form, without increase of price.

The naked Summer Fallow.

The practice of making a naked summer fallow as a preparation for a crop of winter wheat, is one which holds a middle rank between skillful cultivation, and that slovenly and inconsiderate management, which characterizes the farmer of the poorest sort. It is, on the one hand, a great improvement over the practice which raises wheat after wheat, in successive seasons, on the same field; and, on the other, far below that, which makes every field produce each year a profitable crop, and that without exhaustion. We propose to show in this, that a naked summer fallow, except under particular circumstances, is neither necessary nor expedient; and that a course of constant cropping, of some sort, is entirely feasible, and highly advantageous. In doing this, we will enumerate some of the benefits derived, and supposed to be derived, from the summer fallow, and then some objections to which it is liable.

1. The summer fallow is resorted to on new lands imperfectly subdued, with a view to complete their subjugation by repeated plowings, and exposure to the sun and air. These extirpate the wild herbage, and cause its roots to die and mingle with the soil. In this way, lands not fit for advantageous culture with any crop, are brought into a state of fertility. This is one of the cases, and nearly, if not quite, the only one, in which the fallow is decidedly proper, and, in general, the best course that can be pursued.

2. The summer fallow is recommended when lands have become foul, with a view to exterminate weeds. In this matter, prevention is better than cure. But when lands have been suffered to get into this condition, the cultivation of corn or potatoes, with two plowings before planting, and early and thorough cultivation afterwards, is an equally effectual way of accomplishing the object.

3. The summer fallow pulverizes and exposes the soil to the atmosphere, and from the contact chemical changes take place, which increase its fertility. Substances before insoluble, and therefore incapable of being assimilated by plants, become soluble. Hence arises an advantage,—but this same advantage results from the culture of a hoed crop.

4. It is said that a summer fallow enables the farmer to prepare land for winter grain at a time of year when he has some leisure; whereby he is enabled to sow more of his land with wheat than by any other course. This position is questionable, as will, we think, appear hereafter: but even if granted, the benefits are still doubtful; for there is a manifest tendency in all the wheat-growing states, to devote lands excessively to this exhausting crop, without restoring to them what is necessary to preserve their fertility. They cannot obtain these necessary things from the air alone.

5. It allows land to *rest*. This argument seems to consider the soil of the same nature as an animal, capable of getting wearied by over exertion. The parallel does not altogether hold. Experience has shown that a soil may be made to produce a yearly crop, and yet increase in fertility.

The objections to which the practice of the naked summer fallow is liable, are these:

1. It causes the entire loss of one season's crop, making the land produce but once in two years.

2. Unless the fallow can be depastured by sheep or cattle, at least three plowings, with intermediate harrowings are requisite to keep down weeds, and bring the land into suitable condition at the time of seed-sowing. Hence, it is a laborious method.

3. The exposure of a soil, rich in vegetable and animal manures, to the full rays of the scorching summer sun of this climate, and that for months, must dissipate the volatile constituents, while some of the mineral matters rendered soluble by exposure to the air, are dissolved prematurely, and being intercepted by the roots of no growing vegetation, are carried by drenching rains into the substratum, and lost. Hence it would seem, that the ultimate effect of the summer-fallow system would be exhausting.

4. It interferes with the extensive and proper cultivation of hoed crops,—corn, potatoes, carrots, ruta bagas, mangel wurtzel, &c.—crops

which are highly profitable when properly managed, but which are so generally neglected, and suffered to be choked with weeds. Thus their growth is stinted, and the ground, instead of being left clean for a crop of the smaller grains, is made foul for years.

5. As already intimated, it is, as a part of a regular system of culture, after land has been once brought under subjection, entirely unnecessary, since as good, or better crops of wheat can be raised without it.

Let us now consider some of the substitutes which may be adopted for this system.

The great principle on which this substitution is founded, is, *that the culture of certain crops is a fit preparation of the soil for certain other crops.*

In carrying out this principle, the cultivation of clover presents itself as the readiest and best means of getting rid of the naked fallow, and adopting an improved plan. Clover may be managed in various ways so as to accomplish this object. It may be depastured by sheep, until within two or three weeks of the time of seed-sowing, and then turned under. It may be mown, and after the crop of hay is taken off, the sod may be reversed and wheat sown. If the cover be of an early kind, the aftermath will furnish a considerable body of vegetation—if of a late kind, it may be depastured in the spring and early summer, and the stock turned off in time for the clover to blossom before plowing for wheat. It may then, in either case, be used to enrich a soil deficient in vegetable mould.

The advantages of the clover crop, and its peculiar adaptation to the raising of wheat, have been often presented in this journal, enforced by the highest authority, both scientific and practical. It is a matter of regret, that this fertilizing and profitable crop is still so widely neglected.

With the extended cultivation of clover, the necessity for allowing fields to lie fallow, would never exist. The clover, when sown sufficiently thick, and made thrifty by right culture, effectually stops the growth of weeds, penetrates and lightens the soil by its tap roots, fertilizes it by its decomposition, and gives the wheat plant the precise food which it needs. Lands have been made to produce heavy crops of wheat for long periods, every alternate year, by simply alternating wheat and clover,—the latter being always sown with the former. This is, by no means, to be recommended as a skillful rotation: but if land must be *run*, and the greatest possible product in wheat obtained from it for a limited number of years, say from four to ten, this is undoubtedly a good way to do it. By this means, the land will be kept clean, and with a good wheat soil, no diminution of yield will be soon perceptible. One half the cultivated portion of a farm might thus be every year in wheat, the other half, used for meadow or pasture.

Where a greater variety of crops is produced, and a large quantity of land is desired to be devoted to wheat, it can be sown after beans, peas, corn, and barley, (or even oats, if the ground be twice plowed.) This course may be pronounced exhausting, and so it is: but the careful saving and application of the manures which those crops would yield, would render the exhaustion comparatively little.

It would be impossible to prescribe a single plan which would suit the circumstances of all—but if any farmer, who has his farm well reclaimed from a state of nature, will sit down, and arrange a system of rotation of crops, varying from three to eight years, according to the number of lots into which his farm is divided, and the kind of crops which he wishes to raise, he will, it is thought, find it easy to reject the naked fallow, and make every part of his farm produce each year a profitable crop. It is the lack of system, that is, of a course of cropping determined years before-hand, which causes the fallow to be resorted to, and continued as a settled practice by many good farmers.

Agricultural Failures,

Or Mr. Experience against Mr. Book-farmer.

The invitation in our last to "gather up the fragments," has brought a communication from Mr. A. Robison, of Washtenaw Co., containing a detail of sundry trials of practices recommended in the Michigan Farmer and other agricultural journals, which have resulted unfavorably. These seem to have impressed Mr. R. with the conviction that "book-farming," in his case at least, is a thing at variance with experience—instead of being, as for the most part it is, a record of the practice, improvements and discoveries of the best farmers. We are, however, thankful for the communication, as it affords an opportunity for certain explanations which appear to be needed, and which may, perchance, meet the case of others who have encountered the same difficulties; and thankful also, for the enclosed remittance, paying in advance for the Farmer up to 1848, sent by Mr. R., in the hope of having better luck in following its recommendations hereafter.—Such an exercise of active faith should, in the eyes of a publisher, cover a multitude of sins.

And now let us hear about Failure No. 1., charged against "book-farming."

"Mr. Book-farmer says, manure should be

hauled out in its fresh, unrotted, unfermented state, and applied to hoed crops, because the rotting and fermenting in the soil prevents the escape of certain gases, and adds much to the fertility of the soil. Mr. Experience has told me I may contradict that statement flatly; because I found upon my premises, [a second hand farm,] a huge pile of old rotten manure, that had lain there from 'time immemorial,' exposed to the drenching rains of summer, and the blasts of winter;—and in fact, around the edges, where the manure was some six or eight inches deep, the grass and weeds had completely turfed it over:—this was hauled out in the spring of '44, and applied on one side of a lot, and manure made the previous winter, fresh, unfermented and unrotted, was applied on the other side. The whole was plowed in deep, and planted with corn; and any person, with his eyes half open, could discover where the old rotted manure was applied. The corn was by far the best, from its first appearance to maturity. Each year since has confirmed my opinion. I would not here be understood to advocate the slovenly practice of leaving manure around a barn for the purpose of rotting: by no means. Let every thing in the shape of manure be hauled out in the spring, and applied to the corn crop, and with level culture it will be no detriment to the crop. Dry straw, plowed in, I consider a positive injury to corn."

The beginning and end of this part of our correspondent's article are antipodes. They play over the game of the Kilkenny cats, and eat each other up. If manure is so greatly improved by lying in the barn-yard to rot, there seems no very good reason why it should not be so treated.—The annoyance of its presence in the yard might be borne in consideration of the benefit. We are not disposed to dispute the greater immediate advantage, in some cases, of old manure which has decomposed in a heap, when the same number of loads are applied to the acre: but did Mr. R. consider how many loads of the fresh manure it would have required to make one of the rotten? and did he take into account the comparative benefit to subsequent crops? The question is, which would be most advantageous to a farm, to apply a given quantity of manure fresh, or that same manure after it shall have diminished to one-third or one-fourth the quantity, in the process of fermentation, evaporation and leaching.

The effects of manures are influenced, as every observing farmer can testify, by the character of the season as regards wetness or drouth. But the season must be unfavorable indeed, when long manure, applied judiciously to corn, only "does no detriment to the crop." Read the practice of Mr. Geddes, the premium farmer of New York, in the August number.

Dry straw, plowed into heavy clay soils, is asserted by many who have tried it, to have the effect to lighten and render them more porous, thus improving their texture, and increasing their productiveness. On light dry soils, the effect is different, especially in dry seasons.

Failure No. 2.

"Mr. Book-farmer says to grow good spring wheat it should be sown early in the spring, on corn stubble which has been heavily manured the previous season—the seed, prepared by washing in brine, and then dried with lime or ashes, to remain in a pile some 24 hours before sowing.

"Mr. Experience endeavored to follow these directions to the very letter:—sowed 10½ bushels of Tea wheat on 8 acres, on the 1st of April last, and I flattered myself it was done 'in apple-pie order.' The result of it was, my wheat was not more than a foot or eighteen inches tall at most; it was smutty, badly shrunk, and not worth cutting. The land on which it was sown is burr oak opening."

Mr. R. seems to present a strong case here—but exceptions do not invalidate a rule. Does he really suppose that the careful preparation of the seed, the early sowing, or the previous enriching and clean culture of the ground with corn, were the *causes of his failure?* We should look elsewhere, and inquire, was the ground dry and well settled when plowed and harrowed, was the plowing deep or shallow, was the seed good, &c.

The efficacy of brining and liming seed wheat has been tried too often to be questioned. To offset experience against experience, an old and very successful Genesee Co. wheat grower has just left our office who says that his universal practice was to sprinkle quicklime over his seed wheat on his barn floor, at the rate of about 4 quarts to the bushel, pour on water, incorporate, and after about 24 hours, sow. When the blade shot up, it would look like a corn blade. He never had smutty wheat, even when it was common among his neighbors: and once raised an average of 47 bushels to the acre on a field of 20 acres.

Failure No. 3.

"Mr. Book-farmer recommends a roller to pass over ground newly sown with wheat and other grain, to equalize the surface, and press the earth around the grain, that it may vegetate more readily, especially if it be very dry at sowing-time.

"Mr. Experience says, he cannot dispute you in person,—he is favorably disposed to its use here, and is positive with regard to the benefits resulting from its use 'down East.' I will refer you to Micah Porter, Esq., of this town, who says that some two or three years ago he sowed a field with oats, and after it was harrowed, he applied the roller upon it in alternate strips both ways, so that the lot when completed appeared, as he expressed it, like a huge chequer-board. Now for the result. On the squares that were not rolled, the oats were first rate; on those where the roller had passed over, the oats were very

light; and upon those squares where the roller had passed twice, they were not worth cutting."

Before this failure can constitut a good argument against the practice of rolling, more circumstances would require to be made known—such as the natural character of the soil, the condition of the ground as to being wet or dry, the depth of cultivation, the weight of the roller, and the like. It is quite possible that the use of a heavy roller on a stiff soil, in a wet state, and with shallow cultivation, would be injurious. We have yet to hear of an instance in which it has proved otherwise than beneficial, when these conditions were reversed. It is considered especially useful after the sowing and harrowing in of grass and other small seeds.

Failure No. 4.

"Mr. Book-farmer recommends salt or brine to be applied to fruit trees to render them healthy and vigorous, as the salt is peculiarly adapted to destroy the curculio and other insects, that harbor about the roots of the trees, &c. &c.

"Mr. Experience says he has no doubt of its destroying the insects at the root, but also the whole tree with them in the bargain. Two years last summer I had some four or five choice peach trees in my garden, that were perhaps seven or eight feet tall, and wishing to render them very 'healthy and vigorous,' I adopted the plan recommended by the Michigan Farmer, and other agricultural publications, by applying perhaps three quarts of old filthy beef brine to the roots of each tree: and while I was looking for the 'health and vigor' as the result, lo! 'the sear and yellow leaf' appeared, and in less than three weeks they were as dead as though they had been torn out by the roots, and exposed to a July sun for a month. In following the same suggestions, one of my neighbors, Mr. Thomas Green, lost many of his. Upon mentioning my misfortune to Mr. Tucker, of Napoleon, he smiled at my ignorance, and then related what he had done. 'There was,' said he, 'in the road near my house, an oak tree, which was in summer the general rendezvous for all the cattle that ran in the highway. It became such a pest and nuisance that I was resolved upon its destruction. I took an augur, bored a hole in one of its roots close to the ground, and put into it about a gill of salt, adding urine sufficient to wet it:—laid a stone over the hole to prevent cattle from licking, *and in less than six weeks it was as dead as a hammer.*'

"Now all I have to say in relation to the application of salt to fruit trees, if beneficial at all, it must be applied as the homeopathic physicians prescribe their doses, the trillionth part of a grain: for, surely, any person applying it as indicated by the Michigan Farmer, their total and complete destruction cannot be more effectually secured in any other way, scientific theory to the contrary notwithstanding."

We are not aware of any "scientific theory" which directs the use of salt as a manure for the peach in any way, and least of all as Mr. R. applied it. He must have been mistaken, we think, in his reading, for on looking through the back volumes of the Farmer, we fail to find any thing from which such an inference could be drawn.—At all events, we wash our hands of any such recommendation, and call for the proof. On page 45, Vol. 2, is an extract from the Magazine of Horticulture in which a writer recommends *a pint* of fish brine, diluted with as much water, to be poured, spring or fall, round peach trees 2½ to 3 inches in diameter, to kill the borer, which attacks the body of the tree near the surface of the ground. In this case very little of the salt would be taken into the circulation.

Salt *is* recommended, however, by numerous authorities, for the *plum* tree, to which it has proved itself a natural and health-giving stimulant, and also an aid in the destruction of the curculio.

The discovery that salt is beneficial to the plum was made by the accidental overflowing of a fruit garden by the sea. After the subsidence of the waters, it was found that while most of the other fruit trees were killed, the plum grew with increased luxuriance. Hence the hint was taken, and the experience of the best horticulturists since has confirmed the practice.

In the use of so powerful a manure, the safest way is to apply it at first sparingly, and if in solution, in a very diluted state, until it is ascertained how much may be borne. The writer learned the necessity of this caution in his younger days, by pouring some old beef brine on an asparagus bed. It was done in summer, (instead of the early spring, as it should have been,) and the brine was undiluted. The consequence, of course, was, that although asparagus is a marine vegetable, and salt, properly administered, a highly appropriate manure, the plants turned yellow, and did not recover their thriftiness until the next season.

In like manner, Mr. R. has now found out by *experience* that brine will do the business effectually for peach trees, provided it be applied at the right time, and enough of it. We record that experience, and it thus becomes so much book-knowledge, to be used for the benefit of all who need. But because 3 *quarts of beef brine, applied in summer to peach trees seven or eight feet tall,* was found to settle their case, the inference that therefore it must prove fatal to all fruit trees, under all circumstances, unless used in infinitesimal doses, is hardly logical. So, the general proposition that "what is sauce for the goose is sauce for the gander," may be admitted: but it will not follow that what is good for the plum, must necessarily be good for the peach.

We hope Mr. R. will hereafter be sure to read aright, and make a careful consideration of circumstances, in following out any suggestions he may meet with; and by so doing, we trust he will derive from his Agricultural papers advantage only, instead of injury. We shall be glad to hear from him again.

The Potato Disease again.

In conversation with farmers, a few more facts have been ascertained relative to the potato rot, which appear worthy of publicity.

The disease has prevailed much more in clay soils than in sandy, more in wet soils than in dry, more in rich soils than in poor—whether the richness be natural or artificial. The condition of the ground as to wetness or dryness appears to have a very material influence. In dry sandy fields where the tubers were generally healthy, they rotted wherever there was a slight depression in the surface. On adjoining farms, alike in soil and in preparation for the crop, potatoes planted deep, and raised with level culture, rotted, while those planted superficially, and hilled up high, in the old fashioned mode, came out sound.

The rot appears to have commenced, so far as we have learned, shortly after the first rains in September. A farmer informed us that his potatoes were in fine condition before the rains, and on examination two or three days after the rains began, the rot was in rapid progress throughout the field. In his opinion the rain produced the rot.

This reminds us of a new phase in the insect theory, originated by a correspondent of the N. Y. Tribune, which supposes the cause of the disease to be animalculae, so minute as to be drawn up in vapor, to float in the clouds, and finally descend in rains, whereby they are disseminated over the country—that they fall upon and penetrate the potato vines, and descend to the roots, where they operate with more or less affect, according to the condition in which they find the tubers. But enough of theorizing on this subject.

Mr. A. Clarke, of Grass Lake, informs us that he noticed in his ruta baga crop, appearances of disease similar to those in the potato. The roots were discolored internally in spots, and in many instances rotten. The crop was harvested in good season, before the occurrence of any severe frost. This is the first report that has reached us, of the rot having extended to the ruta baga crop in this country.

The same also states that potatoes which he planted early and dug early, came out healthy, and have since remained so.

The Neshannock variety is universally the most affected.

The Hessian Fly.

The last number of the American Quarterly Journal of Agriculture and Science, contains the commencement of an elaborate essay on the Hessian Fly, by Dr. Asa Fitch, of Salem, N. Y.—The part now published is taken up with the history of the fly, its name and synonyms. In this, the position is quite clearly made out that it is a European insect, and that it was, in all probability, introduced into America by the Hessian troops during the Revolutionary war, according to the prevailing opinion at that day. "Its popular name, *Hessian Fly*, was first bestowed upon it by Col. Morgan, soon after its first appearance on Long Island." The scientific name, *Cecidomyia destructor*, was given by Mr. Say. These are the only names by which the insect is properly designated. "Mr. Say's name might at first view be thought liable to criticism, as being in no wise distinctive, many other species of Cecidomyians being also *destroyers*. Yet this species is so pre-eminent in that particular, as to throw the injuries inflicted by each of the others quite in the back ground. We hence think it will be conceded that the name is signally appropriate. Placed beside it, all its kindred are mere depredators—this alone is THE *destroyer*."

We shall look, with interest, for the appearance of the residue of the article, which, we may expect, will be of a more practical character, embodying whatever of utility in the way of remedies for the evil, the experience of the past may have afforded.

Items.

THE HORSE DISEASE.—A singular and fatal distemper prevails among the horses on Long Island, Staten Island, and some parts of New England. Within 10 miles of the Union Course, Long Island, not less than 300 horses died in three weeks! The disease affects particularly the brain, the horse becomes stupid, rests his head against something, or leans to the side of the stable, or against a fence or tree for support; in a few hours he falls, and dies after a day or two, apparently exhausted.

A similar epidemic prevailed upon the same ground in the fall of 1828, which was equally fatal.

PUNISHING HORSE THIEVES.—Horse stealing is so common in some counties of Illinois, that it has been recommended by a writer in that state, to pass a law making it punishable with death. The American Quarterly Jour-

nal, with better judgment, advises imprisonment at hard labor, the wages of the convict to be first devoted to making up to the owner of the stolen property his loss, and afterwards the punishment to be continued as long as the ends of justice may be thought to require.

An Agricultural Penitentiary.—A farm of 180 acres, beautifully situated in the town of Westboro, Mass., has been purchased by the state, for the purpose of establishing a sort of Agricultural Penitentiary where boys and young men, convicted of crimes, are to be sent, and kept at hard labor, with a view of teaching them habits of industry, and learning them the mysteries of an honorable occupation, which they can pursue when their terms of imprisonment have expired.

Catalogue of Fruits.—Messrs. Hastings, Hubbard & Davis have issued a "Descriptive Catalogue of Fruits, Ornamental Trees, Flowering shrubs and Plants, cultivated and for sale at the Detroit & Oakland Horticultural Gardens," of which they are the proprietors. The catalogue contains the names of most of the choicest varieties of each kind of fruit, and from our acquaintance with the careful manner in which the nurseries have been got up, we feel assured that as much accuracy has been attained in them as in any establishment of the kind in the State. By the way, would it not be as well to patronize our own nurseries, where the best varieties can be procured, as to procure trees from the Eastern states, at the risk of injurious delays?

Cost of Seeding with Clover.—One bushel of clover seed will sow five acres.—At five dollars a bushel, therefore, the cost of seed is $1 per acre.

Cost of Plaster.—Half a bushel of plaster, applied at the right time to clover, will often increase the product 50 to 100 per cent. In this portion of Michigan, plastermay be obtained at $2,50 per barrel. At this rate, the cost of the above application would be about 35 cts. per acre. Yet many farmers say they cannot afford to use plaster—it is so costly.

Black warts on Plum Trees.—The American Quarterly Journal says that the excrescences on the plum are the work of an insect, the larvæ of which may be found in them, if sought for in September. It is then mature, or nearly so, and may always be found in the excrescence which has been formed during the preceding summer. In the dry, black excrescence, the insect has escaped.

Protecting Trees from Rabbits and Mice.—A correspondent of the Gardener's Chronicle, mixes soot and milk till of the consistence of thick paint, and then applies it to the trees with a brush. This, applied once a year, he finds effectual protection against hares and rabbits. Would it not be equally so against mice?

For the Michigan Farmer.

Sunflower.

The article in the last Farmer, copied from the Maine Farmer, on Sunflower, has induced me to state, that, a few years since, I raised from one-eighth of an acre of land, seven and a half bushels of Sunflower seed, sowed in drills three feet apart, and hoed but once. It is well known to be an excellent article of food for poultry. And if flaxseed oil cake is valuable for cattle for its oily properties, why is not Sunflower equally so, as it produces a very pure oil?

S. B. Noble.

Ann Arbor Garden, Nov. 24, 1846.

For the Michigan Farmer.

Ruta Baga Rot.

While most farmers in this country have suffered severely by the potatoe rot, amounting to the loss of the entire crop in some instances, I have to state that in addition to the loss of about sixty bushels of potatoes, about one third of a crop of ruta bagas were affected with a rot, from the crown down through to the tap root. Many were so much rotted that they could not be pulled, and cattle would not touch them. The soil on which they grew was gravelly loam.

S. B. Noble.

Ann Arbor Garden, Nov. 24, 1846.

Salt for Hogs.—Hogs, during the process of fattening, should be supplied with salt as often as once a week. It is no less advantageous to them than the ox, the cow, or the sheep, and when liberally given, is a preventive of many diseases, to which, from their continual confinement, and the effects of hearty food, they are inevitably exposed. Store hogs are also greatly benefitted by a liberal provision of salt, and will generally partake of it once or twice a week, as eagerly, and to all appearance with as good zest, as they do of corn or meal. Charcoal is also highly salutary in its influences upon the health of swine.

Maine Farmer,

To mend Iron Pots.—To repair cracks, &c., in iron pots or pans, mix some finely sifted lime with well-beaten whites of eggs, till reduced to a paste; then add some iron file dust, apply the composition to the injured part, and it will soon become hard and fit for use.

Fine Wool.

[The following remarks on the expediency to wool growers of turning their attention to the production of fine, instead of coarse or medium wool, commend themselves to the farmers of Michigan, not less than to those of New York. The author is L. A. Morrell, than whom probably no one in the United States is more competent to form a correct judgment on the subject. In one point his remarks are inapplicable here,—namely, that sheep producing coarse wool at the rates of the last season, 16 to 25 cents per lb., are worthless compared with almost anything else within the farmer's range: for the raising of even such sheep is advantageous, considered in connection with the wheat crop. We take from the Cultivator.]

Mr. Tucker—The intelligent observer of wool-growing, must have perceived during the last few months that a "crisis" has at length arrived in this important article, long forseen, however, by the more sagacious. It consists in the error of farmers generally, that because coarse and medium wool formerly paid a fair profit, it would always be so; hence, at length, the over-production of wool of low qualities, and consequently, low prices, that surely follow in all cases where there is a want of equability of supply and demand.—But the eyes of all such are now opened to see the fallacy of their anticipations; and this being the fact, the question arises, will they shut them to what is clearly their duty for the future?

To the inert and skeptical, who are slow to believe and act, I will barely state the fact, that three sheep is the average number which can be supported on an acre the year round; and from this data, all can readily calculate the degree of profit realized from growing wool worth only from 16 to 25 cents per lb. Compared with the production of almost anything else within the farmer's range, the conclusion is inevitable, that sheep producing no finer wool are worthless; unless of the mutton varieties, the carcase of which, when well fatted, in the neighborhood of our large towns and cities, will always be in requisition, and profitable to the producer. But it is not my purpose to enter into minute details relative to the comparative profits of growing coarse, medium, and very fine wool, for my time will not at present permit me to do so; but merely to hint the subject for the reflection of all interested. To those who grow indifferent wool I ask, when it costs no more—nay, not so much—to support a sheep whose fleece will command at the present time, 50 cents per lb., will they keep on their premises such as produce wool of the value of 20, 25, or even 30 cents per lb? The careless and unambitious probably will, but the thrifty farmer who desires an adequate compensation for his labor, will not long submit. The period for aiming to grow the *finest wool* has come, and simply for the reason, because it now is, and will continue to be, the most profitable.

Increase of Population and Political Influence in the West.

The Home Missionary thus sums up the growth of the Western States:

Ohio welcomed the first permanent setlers in 1788; now it is occupied by 2.732,000 people.

Michigan to which the attention of emigrants was turned twelve or fourteen years ago, now has 300,000 people.

Indiana admitted into the Union in 1816, has received a population of more than half a million since 1830, and now numbers more than 900,000 inhabitants.

Illinois was organized a separate territory in 1810, and entered the Union as a State in 1818. From that date its population trebled every ten years till the last census, and in the last five years has risen from 476,000 to 700,000.

Missouri, which in 1810 had only 20,800 people, has now 600,000 having increased 50 per cent. in six years.

Iowa was scarcely heard of at the East 10 years ago, and it is but fourteen since the only white inhabitants, north of the Missouri line, were a few Indian traders. More than 100,000 now make that beautiful land their home—60,000 of whom have gone in during the last four years.

Wisconsin was organized ten years ago; the marshals have just taken the census, and, from present appearances, the population will vary little from 150,000 being an increase of 100,000 in five years. One portion of the Territory, 33 miles by 30, which ten years ago was an unbroken wilderness, now numbers 37,000 inhabitants; and the emigration to that portion of the West is greater than ever.

As a consequence of this transfer of population, there is a steady but rapid transfer of political influence. In ten years, from 1830 to 1840, the East *lost*, by the change of the ratio of representation, 31 members of Congress more than it gained by the increase of population; while, in the same period, the West *gained*, by increase of population, 11 members more than it lost by the change of ratio—making a difference of *forty two votes*. The seven new States and Territories above enumerated—to say nothing of the other western and south-western States and Texas—have increased since the last adjustment of the ratio, *more than a million and a half*—enough to entitle them to 16 more members in our national legislature.

Substitutes for Coffee.

These are numerous, but the principal are the following:

1. (Rye coffee. Dillenius's ditto. Hunt's breakfast-powder.) Rye, roasted along with a little butter, and ground to powder. A good substitute.

2. (German coffee. Succory ditto. Chicory ditto.) From Succory, as above. Used either for or mixed with foreign coffee. The most common adulteration of the latter.

3. (Rice coffee.) from rice, as above. A good substitute.

4. (Currant coffee.) From the seeds washed out of the cake left in making currant wine.

5. [Gooseberry coffee.] From Gooseberry seeds, as the last.

6. [Holly coffee.] From the berries.

7. [Egyptian coffee.] From chickpeas.

8. [Rosetta coffee.] From fenugreek seeds moistened with lemon-juice.

9. [Corsican coffee.] From the seeds of the knee-holly.

10. Sassafras coffee.] From the fruit or nut of the sassafras tree, or from the wood cut into chips. Very wholesome. Much recommended in skin diseases, &c.

12. [Raspings.] The raspings of the crust of loaves, procured at the baker's. Equal to rye coffee.

12. [Beech-mast-coffee.] From beech-mast or nuts. Very wholesome.

13. [Acorn coffee.] From acorns, deprived of their shells, husked, dried, and roasted. A good substitute.

14 [Beet-root coffee.] From the yellow beet-root, sliced, dried in a kiln or oven, and ground with a little foreign coffee. A good substitute.

15. [Bean coffee.] Horse-beans roasted along with a little honey or sugar. When removed from the fire, a small quantity of cassia buds is frequently added, and the whole is stirred until cold. Said to be a good substitute.

16. [Almond coffee.] Rye or wheat roasted along with a few almonds. A very small quantity of cassia-buds improves it. A good substitute.—*Cooley's 5000 Receipts.*

The most rapid growing Maple.

How many persons, undertaking to improve new and bare places, are at a loss for what trees to plant for immediate effect! "Something which will grow fast," is to them the great desideratum of life. To talk to such persons about steady and slow growing trees—beeches, oaks—is like talking to the manager of the electric telegraph about the advantages of the old fashioned mail coaches.

We must have the pleasure of recommending to such persons that excellent tree, the Silver Maple, *Acer eriocarpum*. It is, we believe, to be had in all the large nurseries; though indigenous here and there, it is seldom planted as an ornamental tree north of New Jersey. It is a large and handsome tree, with leaves as large as those of the Sugar Maple, but more delicately formed, and with a silvery or downy under surface.

But the *habit* of the tree is quite distinct from the other maples. When it has once formed a head, its branches begin to decline or droop slightly, with just enough of a sweep to be graceful, but not sufficient to amount to a *weeping* wood. In short, with its pleasing habit, clean foliage, and smooth bark, it is one of the most agreeable of trees.

As regards its rapidity of growth, it is quite remarkable. We do not know any fairer wooded tree, except the Elm and the Abele, which sooner throws a fine shade. As compared with the Sugar Maple, its growth is double. In five years it really makes a fine large head. And as a recommendation of still greater importance, we may add that it will thrive in almost any tolerable soil, from a light sand to a strong clay loam.—*Horticulturist.*

To restore tainted meat.—When a barrel of pork is tainted, take it out of the brine, rinse it well, scald the brine thoroughly, skimming off the impurities, and then adding ground black pepper, at the rate of a pound to the barrel. Put back the pork, sprinkling on salt between the layers, then pour on the brine boiling hot. Unless *very* far gone, the pork will have no unpleasant taste. But if it has, boil it with several pieces of fresh charcoal. The charcoal may be used a second or third time, if necessary, by taking it out, and putting it into the fire, where it must remain until heated to redness.

A good Way to use Sour Bread.—When a batch of bread is sour, let it stand till *very* light, and use it to make biscuit for tea or breakfast, thus:

Work into a portion of it, saleratus dissolved in warm water, enough to sweeten it, and a little shortening, and mould it into small biscuits, bake it, and it is uncommonly good. It is so much liked that some persons allow bread to turn sour for the purpose. Bread can be kept on hand for this use any length of time.

To dry a cow of her milk.—Pour two quarts of rain or river water on a fresh rennet bag; boil them down to one quart, and strain; when sufficiently cool, give it as a drink to the cow, and she will be dry in 48 hours. She should be kept on hay, straw, or other dry food two or three days previously and several days subsequently.—*Ex. paper.*

Plowing Clover Sod for Wheat.--Oat Stubble.

* * * * * *

My mode is, to mow the first crop of clover, then let the second crop grow up and about one-third of it *get ripe*, then plow it in and sow the wheat immediately.

In plowing I do not want any ground 'cut-and-covered,' but *all* of it stirred. By this mode of turning in half ripened clover, I have my ground well seeded with clover—better than where I have sown the seed in the spring. I cannot be persuaded to plow ground before harvest, and then stir it several times before seeding. Even if the crop of wheat may be better, I believe it is injurious to the ground.

Some farmers in this region will not sow wheat on oat stubble. I have had very good wheat after oats, by adopting the following mode or rotation of crops: I manure corn ground well in the spring—believing it to be the best time to apply manure—plow it in deep; work the corn shallow, so as not to disturb the manure; plow shallow the next spring for oats; and in the fall plow deep so as to bring up the manure, (which has now become fully rotten,) for wheat. If the oat stubble is thick enough and dry enough I burn it off, which makes the ground in first rate order for plowing and kills the seeds of noxious weeds; which, by the way, I like to keep out of my fields if I can. If the seeds of weeds get in with the manure, by putting it on the corn ground there is a better chance of killing them than when plowed in with stubble for a crop of grain.—*Ohio Cult.* R. H. G.

The Bot Fly.

MR. EDITOR.—In your paper of Sept. 1, I noticed some remarks on the bot fly by Dr. Barker. I am one of those 'grandfathers' on whom he calls for information—having been a farmer for 66 years, except a few years that have elapsed since I gave up the business to younger hands. I differ with the Doctor somewhat in regard to the description and habits of the bot fly—and I have caught I suppose hundreds of them. These flies are of two sorts, and have neither sting nor spear, that I could ever discover. One is about a third larger than the other, and of a lighter, (yellowish brown,) color. These deposit their eggs in great numbers on the fore legs, the most convenient place for the horse to get them into his mouth. The smaller sort, of a blackish brown color, are very stealthy in their movements. They come up behind the horse, pass through between his legs, and with dexterity strike him in the throat, leave an egg, and dart off to one side, light on the ground till the plowman comes round again, and then make another attack. To catch this fly, one must stand before the horse's head and strike it the instant it lights. The horse rubs these eggs off in the manger where they are swallowed with the food. In the maw the eggs hatch and become worms, in the same manner as those taken from off the fore legs. Farmers would do well to take a knife and scrape off these eggs every few days.—*Ib.*

Yours, &c. E. ELLIOTT.

Preble co. O., Oct. 1846.

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MICHIGAN FARMER.

TERMS FOR VOL. IV.

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